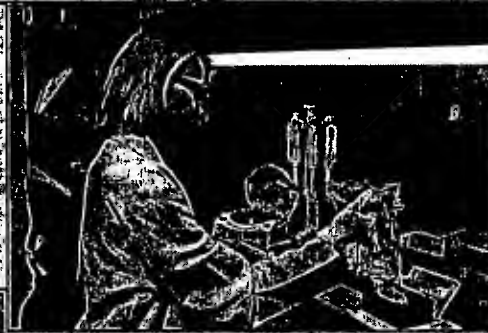
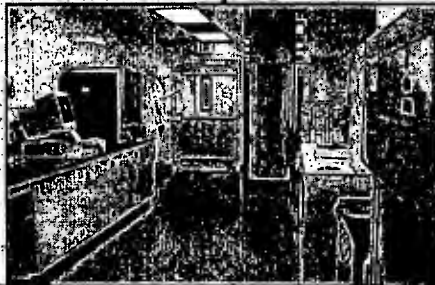


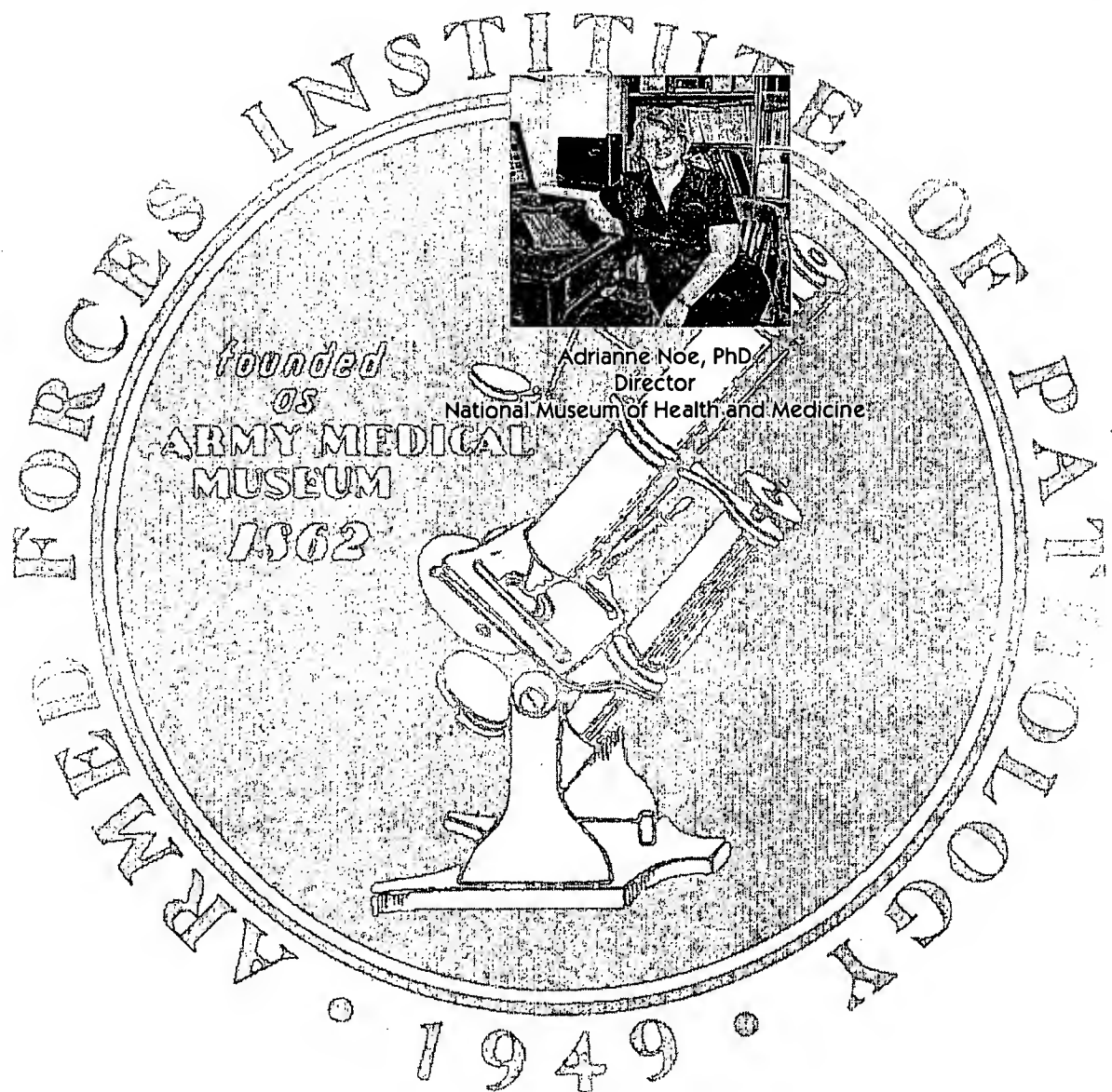
ARMED FORCES INSTITUTE OF PATHOLOGY

ANNUAL REPORT

2004



NATIONAL MUSEUM OF HEALTH AND MEDICINE





Adrienne Noe, PhD
Director
Date of Appointment—September 1995

NATIONAL MUSEUM OF HEALTH AND MEDICINE, AFIP

MISSION AND ACTIVITIES

The NMHM promotes the understanding of medicine, past, present, and future, with a special emphasis on American military medicine. It inspires interest in personal and public health. As the nation's museum of health and medicine since 1862, we aggressively identify, collect, and preserve important resources to achieve a broad agenda of innovative exhibitions, educational programs, and scientific, historical and medical investigations.

To achieve this, we promote the responsible use of the nation's National Historic Landmark collection by continuing to catalog the collections, to record detailed information about the holdings and to edit record to make databases available for the Internet, which allow the collection to be more accessible to researchers. We cultivate ties with professional medical societies and with the DoD to assist in collecting artifacts significant to the history of the practice of medicine and the evolution of medical technology, emphasizing **military medicine**. Finally, we collect, preserve and interpret modern examples of significant medical technology to document the history of the practice of military medicine and the evolution of medical technology to ensure the continued development of the NMHM, AFIP, as a DoD asset and as a national and international resource for the military medical community, professional health care workers and the general public.

In so doing, we emphasize the Museum's focus on critical public and military health issues, the importance of the Museum as a bridge between biomedicine and the general public, the Museum's role in helping to recruit the health professionals of tomorrow, and the Museum's research programs in medical medicine, medical imaging, and other areas.

OFFICE OF THE DIRECTOR

STAFF

- Adrienne Noe, PhD, Director
- Donna R. White, Administrator
- Steven Solomon, Public Affairs
- (D) Susan Martin, Public Affairs Assistant
- Theresa Butler, Staff Assistant
- (A) Melba Stewart, Special Events and Facilities
- Shelly Currie, Visitor Services Representative
- (A) Von Keith Brooks, Visitor Services Representative
- (A) Andre Upshur, Visitor Services Representative

The Office of the Director oversees the general activities and governance of all aspects of the Museum and provides policy, technical, and scientific direction. It directs all activities for the site, facility, and programs of the Museum as its activities evolve. Activities handled

within the office are external and internal relations, governmental affairs, press and public relations, and institutional development. The office works with print and broadcast media, congressional offices, and local, national, and community organizations to encourage contract with the coverage of AFIP's NMHM. The administrative support staff continues to improve the quality of support provided to the departments of the Museum. This administrative group provides a variety of management services essential to the operation of the Museum in the areas of budgeting, manpower/personnel, contract administration, and organizational management. The office provides general supervision of the Office of Public Affairs, the Department of Programs and Exhibitions, and the Department of Collections and Research. The office communicates and coordinates with the ARP (PL94-361) and numerous public and private organizations for institutional development. The Director of the NMHM is a member of the AFIP Executive Committee and an Associate Director of the AFIP.

Activities

Activities for 2004 are fully described in other elements of this report. However, a few bear particular notice. Two major exhibitions were opened—one highlighting the works of the renowned artist Laura Ferguson, entitled “The Visible Skeleton Series,” and the second, a display of unique images from Alexander Tsiras’s book *Architecture and Design of Man and Woman—The Human Body Revealed*. Both received critical acclaim and were drawn at least in part from holdings at the Museum. The latter exhibit made use of emerging imaging technologies such as magnetic resonance microscopy, a technique the very development of which was funded by the NIH and which relied upon access to Museum holdings. The “Battlefield Surgery” exhibition was expanded with the support of activities at WRAMC, and original contributions of cartoonist and commentator Garry Trudeau. The Museum again offered the successful Forensic Anatomy Workshop through the AFIP’s education department. Collecting has been particularly strong in the areas of **military medicine**, with the initiation of systematic programs to assemble and provide access to works representing the efforts of the Frank Berry Prize winners—an effort made possible through collaboration with the offices of *U.S. Medicine* and the prize winners themselves.

The **military medical** historical strengths of the staff are widely recognized. Two staff members traveled to assess historic medical materials in Seoul at the request of the US Army. At the request of DoD officials, the Museum began a collaboration with the Russian Military Medical Museum of the Defense Ministry of the Russian Federation and its Archives of Military Medical Documents. This collaboration helps to facilitate the mutual MIA program. Also at US Air Force request, a staff member has been named to a panel to assess the roles and plans for unique and historically important artifacts and archives. Staff members were also guests of the organizers of the internationally recognized TEDMED meetings in October. This group brings together **military**, industrial, and academic leaders in medical technology development; the Museum’s role was to bring an array of artifacts for the participants to discuss and to make an extended platform presentation. This afforded an opportunity to illustrate how older devices, many of which have passed from common memory, now hold great potential again for use as surgical instruments in emerging robotic environments. Finally, the Museum’s collaborations with other **military** elements and with the AFIP are expanding, all to the betterment of our visitors and the hundreds of scholars, researchers, and clinicians who use the Museum’s resources.

Gift Shop

The Gift Shop continues to thrive and offer a variety of merchandise to visitors of all ages and educational interests. The Gift Shop contributes to the advance marketing efforts of the Museum and Institute, extends the effectiveness of the Museum’s programs and exhibitions by selling objects related to Museum activities, and generates revenue. Each object has a distinct connection with the Museum’s mission and/or exhibits are on display.

Facilities and Special Events

The NMHM’s facilities and special events staff, in conjunction with the AFIP Directorate of Logistics, support and offer consultation to the NMHM in the following areas: physical security, storage movement, maintenance, repair and accountability of materials, housekeeping, exhibit upkeep and maintenance, waste collection and disposal, notification to the Provost Marshal of visitors attending special events and media filming. This notification is a part of the installation’s ongoing security process. This department serves as a liaison with the AFIP Office of Safety Management. It also maintains an inventory of all hazardous chemicals located within the NMHM. The department also serves as a member of many safety-related committees and also investigates all facilities safety issues concerning staff and visitors.

The Facilities Department assisted in disassembling temporary exhibits, including the National

History Day Program exhibits, repaired and painted exhibit space for new exhibits, including Conception to Birth, Architecture and Design of Man and Woman, The Visible Skeleton Series, Battlefield Surgery 101, and Research Matters: a GI Journey.

Staff members provided support to the AFIP, WRAMC and the surrounding community by hosting and scheduling annual events such as Ash Lecture and WRAMC continuing education courses such as Medical Effects of Ionization Radiation, Medical Management of Chemical and Biological Casualties, and Emergency Medical Technician training. In 2004, the event staff coordinated logistical support for 12 events that had a combined attendance of 2,359 people. The event staff also provided logistical assistance for NMHM-sponsored events such as monthly health fairs, docent meetings, training sessions and other educational programs.

Standard operating procedures for Museum meetings and receptions were provided to the event planners and/or points of contact for events. The office staffs and secures each event with Visitor Service Representatives. We also offer each event planner and/or point of contact a list of specialty caterers familiar with the policies and procedures of the NMHM. The Special Events Branch also assisted with the audio-visual needs of instructors, guest speakers, and event presenters.

Public Affairs

During 2004, the Museum's Public Affairs Office continued marketing efforts and strengthened relationships within the business, museum, and tourism communities to

increase awareness of the Museum throughout the Washington, DC metropolitan area, and among tourism and military audiences. There are various community organizations in the area, and the museum maintains relationships and cultivates ties with as many area grassroots and cultural-based organizations as possible in order to better position itself as a significant historical, community, and cultural attraction.

The Museum remained an active member of Cultural Tourism DC, a grassroots, non-profit coalition of more than 140 arts, heritage, cultural, and community organizations throughout Washington, DC that works with a wide array of partners in the public and private sectors to make all of Washington, DC a world-class destination for cultural tourism. Through the CTDC, the Museum received prominent recognition in its publication providing an inventory of all DC cultural attractions by neighborhood and theme. The Museum benefits from other efforts organized through the CTDC, such as collaborative marketing materials, a joint product-licensing program, and a neighborhood heritage trail tour along the Georgia Avenue corridor.

In addition to membership in the DC Convention and Visitors Association, the District of Columbia Chamber of Commerce, and the Washington, DC Convention and Tourism Corporation, the Museum also increased its reach by joining the Conference and Visitors Bureau of Montgomery County, Maryland. The Museum is located just a few blocks from Silver Spring, Md, which attracts nearly 2 million visitors annually.

The Museum remained a designated site on the Civil War Discovery Trail, which was named 1 of 16 National Millennium Trails in the United States by the White House. As a result, the Museum received recognition in marketing and promotional materials produced by the Civil War Trust at no cost to the Museum. The Museum also responded throughout the year to hundreds of requests for information or assistance received by e-mail, telephone, and mail from the general public.

Marketing

Working closely with the Museum's Public Programming Department, Public Affairs placed an emphasis on promoting programs and workshops to the local community to raise awareness of the Museum's educational offerings and to increase program attendance.

Specially promoted within the internal WRAMC and AFIP community as well as to the public were the monthly health fairs held at the Museum, including Glaucoma Awareness Month, National Heart Month, National Kidney Month, Dental Hygiene Month, and American Diabetes Month.

A special effort was made during 2004 to promote "The Human Body Revealed," an exhibit based on a book by Alexander Tsiras that examines human anatomy for both the scientific and lay communities. Described by the editor as "a glorious, unparalleled view of the human body," there was significant coverage of the opening of the exhibit and release of the book, including a 1,282-word review on the front page of *The Washington Post's* health section that included 13 images. The story was distributed to other newspapers and reprinted across the country in newspapers such as *The Philadelphia Inquirer*, *Atlanta Journal-Constitution*, *Sarasota*

Herald-Tribune, Anchorage Daily News, Pittsburgh Tribune-Review, and more than a dozen others.

Media

The Museum produced and distributed one or more news releases a month for the media in 2004, resulting in measurable media exposure. More than 500 stories and newsbrief items were printed in 2004, in publications with a combined circulation of more than 50 million. This coverage appeared in local, national, and international publications, as well as on TV and radio stations, the most notable being articles in *The Washington Post*, *The Baltimore Sun*, *The Boston Globe*, *The New York Times*, *The Lancet* as well as a feature article distributed by the Associated Press.

In 2004 Museum staff met with and/or were interviewed by media representatives for stories or documentaries on:

- Canadian Broadcast Corporation
- CBS-TV "NCIS"
- CNN Medical
- CNN-NewsNight
- Discovery Science Channel
- History Channel
- National Geographic
- National Public Radio
- Nippon TV
- PBS/Nova
- Prologue Films
- USA Network
- WETA-TV (Arlington, Va)
- WPDH-FM (Poughkeepsie, NY)
- WPIX-TV (New York)

Newsletter

Circulation of the Museum's newsletter, *Flesh and Bones*, increased slightly in 2004. In addition to being distributed internally to the departments of the AFIP, the newsletter was mailed to the Museum's mailing list, which includes the media, schools, libraries, and visitors who have signed up to receive information by mail. It contains articles that are researched and written by Museum staff about new exhibits, special programs, recently acquired artifacts, loans to other museums, etc.

Website

The Public Affairs Office was principally involved in expanding content on the Museum's website to include information about new exhibits, such as "Laura Ferguson: The Visible Skeleton Series" and "The Human Body Revealed." In addition, the Museum posted information about accomplishments of the staff called Staff on the Go. The Museum also continued to pursue opportunities to be added to other museum and tourism websites.

According to the traffic report provided by Web Trends, the website is averaging more than 8,700 hits daily, and in 2004 had more than 400,000 unique visitors who spent nearly 9 minutes during each visit to the site.

The Museum ensures accurate and timely information is provided to online website information resources, and is currently linked from 975 other sites.

PUBLIC PROGRAMS AND EXHIBITIONS

The division directs and coordinates operational and interpretive components of the Museum, including administration, exhibitions, public programs, educational tours, facilities use, and related activities. Division staff work with governmental agencies, professional associations, museums, and individuals to develop interpretive strategies that promote greater public awareness of contemporary and historical perspectives on disease, public health, and health education.

STAFF

- (D) James Carey Crane, Exhibits Manager
- Janet Melson Burns, MA, Public Programs Coordinator
- (A) Andrea K. Schierkolk, BA, Tour Program Manager

Docents

Sal Battiatà, MD; Ed Beeman, MD; Catherine Bonomo, BS; Edward Byrde, BS Ph; James DePersis; Marjorie Hughes, MD; Regina Hunt, MEE; Marianne Jesse-Solfronk; MS, LaVerne Madancy; MA, Kay McMahon, BS; Richard Mulvaney, MD; Colleen Pettis, MA, MS; Anne Pollin; Anthony Rondello; Enid Rosen, BS; Shen Sung, MD, Stephen Schiaffino, PhD; Carolyn Whittenberg, MSN.

Volunteers

Gloria Feeney worked with the Historical Collections staff, Michael Mendelson, AA, S, worked with the Public Programs staff, and Steven Schiaffino, PhD, worked with the Neuroanatomical Collections staff.

Public Programs

Programming presented in January in conjunction with the exhibit, "Battlefield Surgery 101: From the Civil War to Vietnam" and military medicine, included a 2-day screening of the film "Nurse Edith Cavell." Jim Connor, PhD, Assistant Director for Collections, provided introductions both days of the screenings. His discussions included a description of the political climate that existed between Germany, Belgium, and other European countries regarding this war; some history of the state of military medicine and medicine in general during this time; and primarily, the role that Edith Cavell played in the war and her legacy. The 1939 film, directed by Herbert Wilcox and nominated for an Academy Award for Best Original Score, starred Anna Neagle, Edna May Oliver and George Sanders.

In April, in conjunction with the exhibit "Battlefield Surgery 101" and military medicine, the museum presented the 1942 film "Dive Bomber" in 2 parts. Adrienne Noe, PhD, Museum Director, provided introductions to the film and a commentary on aviation medicine during World War II. The film, which stars Errol Flynn and Ralph Bellamy, focuses on the medical and logistical challenges faced by naval aviators during World War II.

"Images of the Less-Than-Perfect Body," a program held in conjunction with the exhibition "Laura Ferguson: The Visible Skeleton Series," was presented in June with co-sponsorship of the National Coalition Against Censorship (NCAC). The program was included in the 4-day 2004 International VSA Arts Festival and focused on how the "less-than-perfect" body is portrayed in art. In addition to the artist, panelists included Alice Dreger, PhD, medical historian and author of the recently published *One of Us: Conjoined Twins and the Future of Normal*, who talked about the use of imagery of unusual anatomies in the medical context, and Svetlana Mintcheva, director of the Arts Advocacy Project for the NCAC, who discussed the shifting sociocultural attitudes to the body in art. Other disabled artists working with self-portraiture also participated. Adrienne Noe, PhD, Museum Director, served as moderator.

In October, "Body Image and Spinal Deformity: A Patient/Doctor Dialogue," a program in conjunction with the museum's art exhibition, "Laura Ferguson: The Visible Skeleton Series," was presented. This special program, cosponsored by the National Scoliosis Foundation, provided a forum for patient/doctor dialogue on issues of body image and the visual impact of spinal deformity. The artist, Laura Ferguson, and David W. Polly, Jr, MD, formerly chief of orthopedic surgery at WRAMC and currently chief of spine service and professor of orthopaedic surgery at the University of Minnesota, were the participating panelists. Adrienne Noe, PhD, moderated.

Also in October, the museum presented "Learning About Forensics II: A Hands-On Experience," a day-long program that revealed how forensic science plays an important part in the investigation and prosecution of crime in today's society, as it is used to determine the identity of human remains and provide clues to the cause and manner of death. This was a 2-part program. The first part consisted of "Forensics Mystery" workshops that allowed children and adults to participate in hands-on activities designed to gain a better understanding of forensic science. Participants closely examined replicated skeletal remains, dental evidence, and fingerprints to determine to whom, among the list of missing persons, these remains belonged. The second part of the program featured a short lecture by Lenore Barbian, PhD, assistant curator of the Museum's anatomical collection. She provided background information needed to understand the focus of four lab stations where forensic scientists provided actual hands-on activities that participants would take part in. At the stations, Marilyn London, MA, a forensic consultant to Rhode Island's Office of the Medical Examiners and a lecturer in the Department of Anthropology at the University of Maryland, explored the issue of race assessment; Brian Spatola, MA, former mortuary supervisor for the Washington, DC Office of the Chief Medical Examiner and a member of the Federal Disaster Mortuary Operational Response Team (Region III) who currently works at the Smithsonian Institution's Museum Support Center, demon-

strated how to distinguish forensic remains from nonforensic/nonhuman remains; Allison Willcox, MA, a biological anthropologist and a doctoral candidate at the University of Pennsylvania, addressed forensic taphonomy, the study of the processes that affect the decomposition, dispersal, and burial of human remains; and Dr. Barbian discussed pathology and trauma.

Program Collaborations

The NMHM collaborated for a fourth year with Dana Alliance for Brain Initiatives, WRAMC's Head Trauma Department, and the NIH in a 6-day celebration of Brain Awareness Week 2004 in March. Students from Washington, DC, Maryland and Virginia had the opportunity to participate in lectures, activities and opportunities to interact with local neuroscientists. Students also got to see, touch and learn all about the human brain. Neuroscientists, medical professionals and technicians, and educators from NIH, Georgetown University, Howard University, and WRAMC Department of Head Trauma partnered with NMHM and Dana to present lectures and hands-on activities for elementary, middle and high school students.

Catherine Sasek, PhD, of the National Institute on Drug Abuse (NIDA) of NIH; Denise Pintelto, PhD of NIDA of NIH; Christine Covis, PhD of NIDA of NIH; David Thomas, PhD of NIDA of NIH; Gaya Jeyarasasingam, PhD of NIDA of NIH; Dennis A. Twombly, PhD of National Institute on Alcohol Abuse and Alcoholism (NIAAA) of NIH; Roger Sorenson, PhD, of NIAAA of NIH; Vishnu Purohit of NIAAA of NIH; Ricardo Brown, PhD, of NIAAA of NIH; Donald R. Vereen, Jr., PhD, of NIAAA; Richard K. Nakamura, PhD, of the National Institute of Mental Health (NIMH) of NIH; Allison Bennett of NIMH of NIH; Shari Thomas of NIMH of NIH; Lauren Shore of NIMH of NIH; Mike McManus of NIMH of NIH; Andrea Sawczuk, DDS, PhD, of the National Institute of Neurological Disorders and Stroke (NINDS) of NIH; Margo Warren of NINDS of NIH; Nancy Hart of NINDS of NIH; Kebreten F. Manaye, MD of Howard University (HU); Gregory B. Stanton, PhD, of HU; Yousef Tizabi, PhD of HU; Vera Campbell, PhD of HU; Warren Lux, MD, of Walter Reed Army Medical Center (WRAMC) Defense and Veterans Brain Injury Center (DVBIC); Lisa Moy Martin of WRAMC's DVBIC; Alice Marie Stevens of WRAMC's DVBIC; Kelly Gourdin of WRAMC's DVBIC; Karen Graham of Charles Dana Alliance for Brain Initiatives; and Archie Fobbs, curator of the Neuroanatomical Collection provided lectures, hands-on activities and technical demonstrations that highlight various brain functions or disturbances. Over 600 students participated in this 6-day program.

This was the fourth year that the Museum collaborated with Health Pact, Inc, a local non-profit company that assists community organizations by securing medical personnel, community groups, and medical supplies to perform certain medical screenings at health fairs, to present National Health Awareness Kickoff. This is a series of programs held the first Saturday of each month to acknowledge and explore certain health awareness issues. Medical professionals provided in-depth information on the selected health issue of the month and provided free health screenings for Museum visitors interested in the state of their health. This program continues to be an important part of the Museum's ongoing programs.

The Museum partnered with the Prevention of Blindness Society of the Metropolitan Area to provide free glaucoma screenings and distribute information about the disease in January; the Washington, DC chapter of the Chi Eta Phi Sorority in June to present Back to Sleep Campaign, a program designed to educate the public about the prevalence of Sudden Infant Death Syndrome (SIDS) in African American communities; and WRAMC Eye Clinic to present the film, "Current Techniques in Phacoemulsification," a video showing the surgical removal of cataracts in August.

Teacher Workshop/Open House

In November local area teachers and educators learned how museum visits and resources can complement classroom curricula in a special preview of the Museum. Educators were given opportunities to see how the Museum could be used as a facility for their students to learn about the critical connection between daily lifestyle choices, health, and illness, while exploring human anatomy and physiology, as well as to witness what their students would gain from the Museum's guided tours. Dr. Adrienne Noe, PhD, museum director, Lenore Barbian, PhD, curator of the Anatomical Collections, Elizabeth Lockett, imaging specialist and manager of the Human Developmental Anatomical Center and Alan Hawk, BA, manager of the Historical Collections, discussed ways that the Museum's collections may be used to help teachers address curriculum requirements in the classroom.

Ongoing Programs

The Museum continued to offer guided tours on the weekend to walk-in visitors on the

second and fourth Saturday of each month.

Tour/Docent Program

In addition to the general tour, which introduces visitors to the highlights of the exhibition galleries, the following Curriculum Connection tours were offered during 2004: "Human Body, Human Being" and "To Bind up the Nation's Wounds: Medicine During the Civil War." The "Forensics Mystery" workshops continue to be popular hands-on activities for students, families and adults.

Docents, Museum staff, and AFIP staff benefited from educational presentations made at monthly docent meetings. Michael Rhode, chief archivist, provided a Behind-the-Scenes tour of the Otis Hammond Archives and discussed the development of the new exhibit, "Battlefield Surgery 101" in January. (Because of inclement weather no programs were presented in February.) In March Lenore Barblan, PhD, presented a Behind-the-Scenes tour of the Anatomical Collection and discussed plans for opening the exhibit, "Visible Skeleton." Alan Hawk, manager of the Historical Collection, provided a Behind-the-Scenes tour of this collection in April. In September, Andrea Schierkolk, BA, and Janet Melson Burns, MA, administered Health Insurance Privacy and Portability Act (HIPPA) training for Museum docents as required by AFIP. Lucious Hires, WRAMC EEO Office, presented the workshop "Dealing with Diverse Audiences" in October. In December Toby Horn, PhD, Carnegie Academy of Science Education, Carnegie Institute of Washington, provided a lecture on "Human Embryology and Its Relation to Other Animals," in conjunction with the exhibit "From a Single Cell."

Recruitment and training of new volunteers for the docent program began in 2004. Andrea Schierkolk began the docent training program in October. Speakers included Adrienne Noe, PhD, director of NMHM, who discussed "The History and Purpose of NMHM" and its relationship with the AFIP and the future; Steven Solomon, public affairs officer, provided a special VIP tour of the NMHM; Alan Hawk, manager of the Museum's Historical Collection presented a Behind-the-Scenes tour; Archie Fobbs, curator of the Museum's Neuroanatomical Collection, lectured on "The Functions of the Brain"; Theresa Conologue, MD, dermatopathology resident at WRAMC, discussed "The Skin"; Charles Davis, COL, USA (Ret), Genitourinary Pathology of AFIP, discussed "The Urinary System"; and Teri J. Franks, MD, Associate Chair of the Department of Pulmonary and Mediastinal Pathology of AFIP, lectured on "The Respiratory System". The new docents in training were Flora Aronson, BS; Solomon E. Barr, MD; Catherine D. Harrison, MS; Patricia A Jones, RN, BSN, MS; Brenda Kiessling, MD; Pamela Kincheloe, RN, BSN, JD; Lewis Larson, BSEE; Vincent Petrella, MD; Marjorie D. Shaw, PhD; and Sabra Woolley, PhD.

DEPARTMENT OF COLLECTIONS

STAFF

- (D) Jim T.H. Connor, PhD, Assistant Director for Collections
Lenore Barblan, PhD, Assistant Curator, Anatomical Collections
- (D) Paul Sledzik, MS, Curator, Anatomical Collections
Alan Hawk, BA, Collections Manager, Historical Collections
Donna Quist, BA, Assistant Collections Manager, Historical Collections
Michael Rhode, MA Archivist, Otis Historical Archives
Tabitha Oglesby, Assistant Archivist, Otis Historical Archives
- (A) Thomas Gaskins, Archives Technician, Otis Historical Archives
Michael Simons, Registrar
Archibald J. Fobbs, Collections Manager, Neuroanatomical Collections
- (D) Surinder Sandhu, PhD, Technician, Neuroanatomical Collections
- (A) Freddie Pruitt, Technician, Neuroanatomical Collections

The Collections Division of the NMHM preserves materials representing the broad subject areas related to the history and practice of American medicine, military medicine, and modern medical and health issues and research. Each collecting division specializes in different media and subject areas. The division's responsibilities are to 1) provide the highest level of professional care for the NMHM collections and their associated documentation; 2) collect objects, specimens, and related archival materials deemed significant and relevant to the mission of the NMHM; and 3) support research, exhibits and public programs through access of collections.

Anatomical Collections

Anatomical Collections collects and preserves human and nonhuman medical, pathological,

and anatomical specimens and associated materials documenting normal anatomy and the response to disease and injury. Staff also provide curatorial support for the exhibition program, completing in 2004 "The Visible Skeleton Series" and "The Human Body Revealed."

Native American Graves Protection and Repatriation Act Compliance

The Museum was chosen by the National Park Service to participate in a pilot database of culturally unaffiliated human remains and associated funerary objects. All inventories of culturally unaffiliated human remains were updated and submitted to NPS in March 2004 in compliance with the pilot project.

Media Coverage

1. February 2004: Associated Press, "Documentary puts stake in vampire folklore," L Walsh, PS Sledzik.
2. May 2004: National Geographic, "Skeleton Crew" segment on the Hardin cemetery flood, PS Sledzik.
3. July 2004: Granada Media, "Battlefield Detectives" segment on the battle of Antietam, L Barbian.
4. July 2004: WPDH-101.FM, "Carlson and McKenzie Show" segment on the NMHM, L Barbian.
5. July 2004: CNN Medical, segment on the presidential collection specimens, L Barbian.
6. December 2004: National Public Radio, "All Things Considered" segment on "Hidden Treasures," L Barbian.

Other Activities

- Staff addressed 69 research inquiries and provided numerous lectures and presentations to school groups at the Museum and in the DC metropolitan area.
- Paul Sledzik continued his involvement as a member of the board of directors of the Ellis Kerley Forensic Sciences Foundation and as a consultant to the National Center for Missing and Exploited Children. He also served as program chair and secretary for the Physical Anthropology section of the American Academy of Forensic Sciences.
- Lenore Barbian served as administrative officer and Forensic Sciences III squad leader for DMORT Region III. She also served as assistant moderator for a session at the American Academy of Forensic Sciences annual meeting.

Historical Collections

Historical Collections acquires and preserves artifacts of record and of note, documenting the history of the practice of medicine, innovations in biomedical research and the evolution of medical technology. The collection emphasizes the role of the US Armed Services, Public Health Service, and federal government as it relates to the above themes. The collection is made available for the education of medical professionals, DoD personnel, historians and the public through exhibits in the museum, loans to other institutions and individualized study. Historical Collections acquired 197 artifacts, including a prototype microwave fluid warmer developed by the USAISR, an OHMEDA Model 885A Military Field Anesthesia Machine, ABI-Prism 3700 DNA analyzer, a RCA EMU-4 electron Microscope (last production Electron Microscope by RCA), an apparatus developed at USAISR to test the efficiency of wound irrigation syringes in the 1990s, a matchbox-sized birthing kit distributed to African midwives by the African Medical and Research Foundation (AMREF-USA) and a Body Cavity Motion Picture Camera used at AFIP in the 1950s.

The collection continues to actively collect artifacts that document the medical accomplishments of the Global War on Terrorism. 2004 acquisitions include prosthetic feet and foam stumps from the Orthotic Prosthesis Laboratory of WRAMC, protective eyewear of the type used by soldiers in Operation Iraqi Freedom, and resuscitation instruments used for Tactical Combat Casualty Care from the 31st Combat Support Hospital in Balad, Iraq. Department staff continue to consult with medical staff in theatre to ensure that the material culture of military medicine is preserved for future generations to study and learn from.

Historical Collections databases currently include 17,388 records. In 2004, 631 artifacts were electronically cataloged in the historical database. Much of the 2004 collections management activity was related to upgrading and standardizing data for the Museum-wide database. As a result, the Historical Collections is the first dataset to go live on KE EMu. The new database will make the holdings of Historical Collections more widely available to the research community.

Historical Collections staff curated an exhibit about Walter Reed that opened in July 2004 in support of the annual meeting of the Walter Reed Society.

Consultation/Public Support

Historical Collections responded to over 100 queries about the history of military medicine and general history of medicine from civilian and military researchers. Many such requests were from military units, many others were from within AFIP.

Historical Collections received one request for information from the Mescalero Apache tribe regarding a medicine bundle in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA). Department staff provided images of the medicine bundle and copies of the file to all Apache tribes.

Historical Collections staff coordinated with Naval Historical Center to arrange an oral history from museum visitor Jordan Garrett, a survivor of the Japanese prisoner of war camp at Batavia, Burma that was depicted in the book *Bridge Over the River Kwai*. Mr. Garrett was visiting the Museum to see an artificial limb made at the prison camp, currently on exhibit in Battlefield Surgery 101.

In June 2004, Alan Hawk and Adrienne Noe were guests of the 18th MEDCOM, US Army Forces Korea (USFK), Seoul, Republic of Korea. They evaluated a collection of 57 artifacts documenting traditional Korean medicine donated by Choon Won Kim, MD, PhD, medical consultant with the USFK. After examining the artifacts, staff made recommendations on the appropriate care and display of artifacts, as well as identifying conservators in Korea to restore artifacts needing conservation and vendors of museum quality display cases for the collection in the new hospital building. The preservation and display of this collection will help the help Korean-American relations by fostering awareness among American troops about Korean culture, as well as enhancing the relationship between members of the Korean medical community and the US Army Medical Department.

Otis Historical Archives

The Medical Illustration Service Library, its space and its staff were transferred to the Museum and placed under the Archives in November. Thomas Gaskins is reviewing parts of the collection and making recommendations of photographs that may be of interest for Archives patrons. Plans are being developed, in conjunction with the IMC scanning project, to make the collection more usable and more current. Gaskins identified and wrote a finding aid for 12 boxes of Museum and Medical Arts Service (MAMAS) photographs taken during WWII in Europe and Asia.

Substantial requests for information were handled, frequently regarding sensitive topics. The Vorwald Collection continues to be used for research for asbestosis lawsuits in spite of being open to the public for nearly 2 decades. Interest in the 1918 influenza epidemic has not yet peaked, and many requests were received to use images from the Archives, all of which are viewable on the website to facilitate research. The images were used in particular for the cover of John Barry's book *The Great Influenza* and by the *New York Times Magazine* and the *Journal of the American Medical Association*. After a meeting with Dr. Budko, head of Russia's Military Medical Museum in St. Petersburg, the Archives has begun sending them surplus or duplicate books through the DoD's US-Russia Joint Committee on POW/MIAs. A book chapter on the Medical Museum in the nineteenth century is in preparation for an edited volume. Michael Rhode was requested to submit his presentation on the medical and surgical history of war of the rebellion to the *Journal of the History of Medicine and Allied Sciences* and is working on preparing it for publication. A tour was given to the University of Maryland's library school students in April.

Computerized cataloguing on the collection level has continued in the shelf inventory. Cataloguing for the General Medical Products Information Collection, medical ephemera, new contributed photographs, audiovisual collection, AFIP historical files and others was done. Implementation of a comprehensive computer catalogue for the entire Museum continued with data from the archives being turned over to KE Software for conversion to their EMU database. Substantial requests for information were handled, frequently regarding sensitive topics. Under my supervision, Oglesby processed the Bahr electron microscopy collection due to an arrangement with EMSA to become the repository for electron microscopy records. She completed the finding aid to the collection as well. New material acquired included 2 original "Doonesbury" comic strips on BD's traumatic amputation in Iraq donated by Garry Trudeau, Dailey psychological testing collection, Downing WWII correspondence, and Miller WWI facial reconstruction photographs. Dr. Beverly Pritchett, commander of the 28th Combat Support Hospital in Iraq, donated digital photographs of her hospital. Dr.

Ishak's office records, consisting largely of his reprint collection, were transferred by the Hepatic Pathology Department; a few of his books that were not in the National Library of Medicine were forwarded to them. Museum records from staff members were added to the archives.

Research and historical material, mostly on military medicine, was provided to the OTSG's Borden Institute as well as American College of Emergency Physicians, Awareness Publishing, Cooperstown Graduate Program in Museum Studies, Cream Productions, DeNicola Design Inc., Film Syndicate, Greystone Television, Hale and Dorr LLP, Harvard University, Heritage House Publishing Co., Johns Hopkins University's Bloomberg School of Public Health, Indiana University's Dept. of History of Art, KZ Associates, Kansas Museum of History, LSU School of Medicine-Shreveport, Lierac Productions, NJ Association for Biomedical Research, National Library of Medicine (including material for their forensic medicine exhibition), National Inventors Hall of Fame, Oxford University, Portland Historical Society, Regional Vaccine Healthcare Center, Smithsonian Magazine, Stryker Trauma, University of Arizona, University of Leicester, University of Minnesota, Yale University, and WGBH-TV, Boston. The National Museum of American History requested hundreds of Civil War photographs for their new exhibit "The Price of Freedom: Americans at War." National Geographic looked through Civil War photographs and chose one for their April 2005 map. Large portions of the Steggerda Collection were photographed by Cold Spring Harbor Laboratory's Dolan DNA Learning Center for use in their eugenics image archive website at <http://www.eugenicsarchive.org/eugenics/>. The significant Archives presence including the Guide to the Collections of the Museum on the website remains the main way researchers begin to use the archives, and several finding aids were added to the website. More archival collections were listed in the Library of Congress' National Union Catalogue of Manuscript Collections (NUCMC), ensuring wider researcher use of the collections. The collaborative exhibit and publication with the Borden Center on the history of surgery, Battlefield Medicine 101, opened in late November 2003 with the publication, paid for completely by the Borden Center, finished in December, and distributed in January 2004. An electronic AFIP Calendar, using pictures from the exhibit, is being worked on at the time of this writing.

Rhode served on the AFIP's Institutional Review Board and HIPPA committees as well as Museum committee's including the Admin group, the collections committee and the database committee. Oglesby was on pregnancy leave from September, and gave birth to Lauren Nortey on September 24, 2004. She returned to work after Christmas.

Public Affairs Reports

1. Barnes, Jennette. Interview for "1918 flu epidemic weighed on South Coast" for *Standard-Times*, October 17.
2. Lalasz, Robert. Interview for "One Man's Cache: Everybody wanted Boris Rabkin to get rid of his 50 years' worth of physician's detritus. But when a museum took some of it, Rabkin was left with just regrets," *Washington City Paper*, April 23.

Neuroanatomical Collections

The Neuroanatomical Collections staff encourages the use of its resources by all qualified members of the research community as part of its role within the AFIP and the NMHM. This division collects and preserves valuable artifacts of neuroanatomy, and strives to become the premier repository in the United States for collections focusing on neuroanatomy in the embryo, the adult human, as well as other selected species. Continued stimulation of new hypothesis-driven research is a top priority.

Collaborating Researchers

1. John I. Johnson, PhD, Department of Anatomy, Michigan State University
2. Wally i. Welker, PhD, Department of Physiology, University of Wisconsin-Madison
3. John Allman, PhD, Hixon Professor of Neurobiology, Division of Biology, California Institute of Technology
4. Kebreten Manaye, MD, Department of Physiology and Physics, Howard University College of Medicine
5. Kondi Wong, MD, Department of Neuropathology, AFIP

Neuroanatomical Holdings

Yakovlev-Haleem Neuropathology and Development Collection
Blackburn-Newmann Collection
Lindenburg Forensic Pathology Collection

Welker Comparative Neuroanatomy Collection
Rubenstein Collection
Adolph Meyer Neuropathology and Development Collection
Isabel Lockhard Comparative Neuroanatomy Collection
The Publos Anatomical Collection
Denny Brown Neuromuscular Collection
Starr Collection
William Cruce Collection
Harrison Collection

Website

Under the auspices of a continuing National Science Foundation grant, the University of Wisconsin-Madison and Michigan State University, and NMHM collections staff implement and manage a nationally recognized neuroanatomy website. The information presented reflects the departmental assets and the larger mission of the museum. Collection inquiries via the website increased 50 percent. Requests for collection images, scheduled visits to the collections division and to the Museum have all increased as a result of the website. The website receives about 105 hits per day and educators report that the website is a useful curriculum development resource for science projects and for answering structural and functional questions about the brain. The general public is able to gain access to information about the brain.

The website widely publicizes images and information about the existence, contents, and value of the brain collections. Via the internet, information about sectioned brain specimens at the 3 partnering institutions will be presented and promoted electronically on our Brain Collection home page <http://www.brainmuseum.org>, with additional information on ancillary sites (<http://www.manateebrain.org>; <http://www.brains.rad.msu.edu> (the Michigan State portal); and <http://turing.comtechlab.msu.edu/default.htm> (the database site)). All sites are interlinked. The visual presentations that staff have already made on the internet, and that are about to expand, have encouraged interest in comparative neuroanatomy and facilitated an enhanced understanding about the nervous system in a wide audience.

Conservation

Fluid-preserved tissue conservation for the Yakovlev-Haleem Collection and the Welker Comparative Neuroanatomy Collection continues. Conservation procedures are performed on a regular basis and fluids are changed as needed. In an effort to improve the conservation efforts the fluid preserved tissue of the Yakovlev-Haleem Collection has been transferred to the Museum's off site storage facility in Gaithersburg, Maryland.

The Blackburn-Neumann Collection fluid preserved tissue evaluation and conservation effort has been completed. As a result, the condition of the tissue, the type and condition of the fluid, and condition of the containers were improved. This information has been used to develop statement of work and a standard operating procedure for implementation of a complete conservation reconditioning of all fluid preserved tissue specimens in the collection. Paper documents of the Blackburn-Neumann Collections were moved from the Department of Neuropathology and safely housed in map cases in the Otis Historical Archives. The Yakovlev-Haleem library continues to be rehoused, with ongoing evaluation for conservation needs.

Collection staff are currently identifying conservation needs and examining Welker Comparative Neuroanatomy Collection slides, along with all other collection slides. This information will be used to continue to develop and implement a conservation plan.

Equipment

A new server has been added to handle file transport process applications, image acquisition, data storage, brain specimen reconstruction and digital graphic imaging. This equipment is available to researchers and student interns. Four new graphic user interface capture work stations have been obtained via extramural support, so that project efforts can be managed more effectively.

Activities

Researchers visiting the Neuroanatomical Collections Increased by 50% over 2003, for a total of 230 individuals. Many visiting researchers obtained collection information via the internet before arranging an actual visit, as did other investigators and representatives of neuroscience organizations. The National Science Foundation continues to recognize the collaboration between the NMHM/AFIP, the University of Wisconsin-Madison, and Michigan State University as one of its model projects and has continued and increased the funding for NMHM and these collaborators. Student visits have also increased markedly.

Manuel Casanova, MD, Professor of Psychiatry and Neurology, VA Medical Center, Augusta, Georgia and Daniel Buxhoeveden, MD, Assistant Professor, Medical College of Georgia, are using the collection in quantitative comparative morphology of cell columns in humans and nonhuman primate brains. The goal of this project is to compare organization of cell columns in the temporal region of humans to that of primates.

Lori Marino, PhD, Associate Professor of Biology in the Department of Biology, Emory University, Atlanta, Ga, collaborates with neuroanatomy staff and human developmental staff on "Magnetic Resonance Imaging (MRI) of Dolphin, Porpoise, and Whale Brains." The outcome will be the production of an electronic brain atlas for the Internet with 3-D models. The atlas is designed for both education and research.

Neuroanatomical Collections staff and Kondi Wong, MD, an former AFIP neuropathologist, continued work on an Alzheimer's project to reconstruct and quantitatively analyze Alzheimer's cases and normal cases from the Yakovlev-Haleem Collection.

John Allman, PhD, Division of Biology, Caltech University, Pasadena, Calif, and his staff have conducted research on developing spindle cells and their correspondence to fetal development and adult mental illness. Also in the beginning stages is an algorithmic mapping of the human and other mammalian brains.

The Neuroanatomical Collections staff were instrumental in providing educational experiences for students from many local public and private school programs. The Howard County Technology Magnet Applications and Research Laboratory Program has partnered with Neuroanatomical Collections and the Human Developmental Anatomy Center to promote internships for high school students of Howard County. This relationship provides research opportunities for students attending the county's technical magnet programs at Long Reach and Paint Branch High schools in Columbia, and River Hill High School in Clarksville, Maryland.

Yakovlev-Haleem Collection Library usage Increased by 20%. The major source of the increase was students taking the AFIP Neuropathology Review Course, AFIP Department of Neuropathology staff members, and visiting researchers.

Outreach

The Museum, the Dana Alliance for Brain Initiatives, and the NIH collaborated again on an annual Brain Awareness program. Students from Virginia, Maryland, and the District of Columbia were invited to hear featured speakers from NIH and to participate in interactive demonstrations. They also viewed artifacts from the Museum's brain collections. A total of 1,200 students attended the 5-day program.

Extensive alphanumeric data from museum collection specimens are also used worldwide via Internet presentation. Interns gain experience with this technique in which data and images from Museum collection specimens are made available for use in education at all levels. This is done via the Internet or via physical diskettes.

Magnetic resonance scans, which provide volumetrically and spatially accurate data about the internal architecture of brains of rare or difficult-to-process species of animals, are included in the collections. The spatial data can be analyzed in 3-D models. In an NSF-funded initiative, student interns use the scans to generate such models.

Tours

The Neuroanatomy Center hosted approximately 100 tours during 2004. Seven student interns worked in the collections during the year:

1. Vikas Patel, University of Maryland Baltimore County, Md
2. Roxanna Montaya, River Hill High School, Columbia, Md
3. Christopher Ewing, River Hill High School, Columbia, Md
4. Jessica Reitz, Paint Branch High School, Silver Spring, Md
5. Matthew Skelly, Paint Branch High School, Silver Spring, Md
6. Jonathan Wiegler, Paint Branch High School, Silver Spring, Md
7. Melissa Smolls, Science and Engineering Program, George Washington University

HUMAN DEVELOPMENTAL ANATOMY CENTER

STAFF

William F. Discher, Imaging Specialist
Elizabeth C. Lockett, Imaging Specialist/Collections Manager
Adrianne Noe, PhD, Director
(D) Kumudini Mayur, Imaging Scientist

The Human Developmental Anatomy Center's role is to acquire, preserve, and encourage the use of major research collections for all qualified members of the research community. The collections are made available for research and for education by appointment and via website. Continued stimulation of new hypothesis-driven research is a top priority. The NIH National Institute for Child Health and Human Development provides extramural support for some activities and staffing of the Center.

The Center hosted numerous meetings and activities, including a major workshop for biology teachers to help facilitate developmental anatomy teaching skills, an activity sponsored by the Carnegie Institute of Washington and the Society for Developmental Biology.

Collaborators in research and education projects (including those using the neuroanatomical collections) include USUHS, WRAMC, the NIH Nuclear Magnetic Research Center, the National Library of Medicine, Louisiana State University Health Sciences Center in New Orleans, La, the Carnegie Institute of Washington, the Society for Developmental Biology, Anatomical Travelogue, Inc, New York, NY, and the Johns Hopkins University School of Medicine, Center of Magnetic Resonance Microimaging, in Baltimore, Md.

The Center provided internship opportunities for 3 students.

EDUCATION

- In March 2004, Paul Sledzik and Lenore Barbian served as laboratory instructors for the forensic anthropology component of the Forensic Identification and Emerging Technologies course sponsored by the Department of Oral and Maxillofacial Pathology.
- The staff of the Anatomical Collections conducted the 17th Annual Forensic Anthropology Course at the National Transportation Safety Board Academy in Ashburn, Va for 60 participants.

PRESENTATIONS

1. February 2004: Dallas, Tex, American Academy of Forensic Sciences, "Cranial healing following trauma," L Barbian, PS Sledzik.
2. March 2004: Atlanta, Ga, 3rd Annual Family Assistance Foundation Symposium, "Accidents vs terrorist events: suffering caused by intent to harm," PS Sledzik.
3. March 2004: Washington, DC, AFIP, "Cranial healing following trauma," L Barbian.
4. March 2004: Washington, DC, AFIP, "Fifteen years of forensic anthropology short courses at the National Museum of Health and Medicine/AFIP," P Sledzik.
5. May 2004: Washington, DC, Edgewood Terrace Historical Society, "The Medical Department of the Imperial Japanese Army," AJ Hawk.
6. May 2004: Madison, Wis, American Association for the History of Medicine, "'The extent of these materials is simply enormous': the creation and publication of *The Medical & Surgical History of the War of the Rebellion* from 1862 to 1888," M Rhode.
7. June 2004: Moraga, Calif, American Association of Clinical Anatomy Annual Meeting, "How to develop a successful mentoring program with limited funds," E Lockett.
8. August 2004: Halifax, Nova Scotia, 5th British-North American Meeting of the BSHS, CSHPS, and HSS, The United States Army Medical Museum as international scientific resource," JTH Connor, M Rhode.
9. October 2004: Washington, DC, NMHM/AFIP, "Learning about forensics II," L Barbian.
10. October 2004: Charleston, SC, TEDMED Conference, "The National Museum of Health and Medicine and the Armed Forces Institute of Pathology," M Simons, A Noe.
11. November 2004: Washington, DC, Surratt House Museum tour of NMHM, "Civil War medicine," L Barbian.
12. December 2004: Washington, DC, Smithsonian Resident Associate Program, "Civil War medicine," L Barbian.

RESEARCH

Journal Articles

Barbian L, Sledzik PS. Cranial healing following trauma. *Proc Am Acad Forensic Sci.* 2004;10:312-313.

Other Publications

Hawk A. Review of Matthew Kaufman, The Regius Chair of Military Surgery in the University of Edinburgh, *H-War, H-Net Reviews*, November 2004. <http://www.h-net.org/reviews/showrev.cgi?path=299831101229704>

PROFESSIONAL ACTIVITIES

Official Trips

1. February 2004, American Academy of Forensic Sciences Annual Meeting, Dallas, Tex, L Barbian, PS Sledzik (ARP).
2. March 2004, National Disaster Medical System Conference, Dallas, Tex, L Barbian (DMORT Region III).
3. April 2004, Medical Museums Association Annual Meeting, Madison, Wis, AJ Hawk (AFIP).
4. May 2004, American Association for the History of Medicine Annual Conference, Madison, Wis, M Rhode, AJ Hawk (AFIP).
5. June 2004, 18th MEDCOM, US Army Forces Korea (USFK), Seoul, Republic of Korea, AJ Hawk, A Noe (18th MEDCOM).
6. July 2004, US Army Center of Military History 2004 Conference of Army Historians, Arlington, Va, AJ Hawk (AFIP).
7. September 2004, Native American Graves Protection and Repatriation Act Review Committee Meeting, Washington, DC, L Barbian (AFIP).